The Builder.

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SOME letters received at different times from architectural students, on the eve of completing their term of apprenticeship, relative to the next step they should take, suggest to us two or three observations, which seem called for, and may apply in part to more than this one class of our readers.

In these letters two things are particularly remarkable, namely, exclusive attention to pointed architecture, and great *self-conceit*. Some of the writers propose to travel, and inquire if we do not consider (as they do) that it is waste of time to go to Greece and Rome, and that their proper course is to confine themselves to the study of mediæval art in France, Belgium, and Germany?

To this we strenuously say No; and urge all our young friends to whom the advantage is possible, to visit the classic lands, and study the wonderful works remaining there. We will sing with Thomson,

> "O Greece! thou sapient nurse of finer arts!
> Which to bright science blooming fancy bore,
> Be this thy praise, that thou, and thou alone,
> In these hast led the way, in these excelled,
> Crown'd with the laural of assenting Time."

Go to the farthest first; if not to Athens, at all events to Rome, and go at once. Belgium, France, and Germany, are so close at home, that you may at any time make an opportunity to visit them, and examine the beautiful examples of middle-age architecture which they possess; but if you neglect the more distant journey in the outset of your career, you will find, connection and consequent ties increasing, that every succeeding twelve months will make the task more difficult, and that ultimately it will be impossible.

We have the sincerest admiration for mediæval architecture; and seek earnestly to render known, within our sphere, the best examples of it. It is peculiarly well fitted for ecclesiastical purposes; all our associations are in favour of it so applied: the contempt heaped upon it by the lovers of classic art, until within the last fifty or sixty years, is seen to have proceeded from prejudice and ignorance: our knowledge of the principles which regulated it is increasing, and our ability to reproduce and combine its parts. Still this should not tempt us, as it seems likely in some cases to do, to consider it the only sort of architecture worthy of study, and lead us in a spirit of retribution, to affect to despise the works of the antique world, where

> "First unadorned,
> And nobly plain, the manly Doric rose;
> Th' Ionic then, with decent matron grace,
> Her airy pillar bear'd; luxuriant last,
> The rich Corinthian spread her wanton wreath.
> The whole so measur'd true, so lessen'd off
> By fine proportion, that the marble pile,
> Form'd to repel the still or stormy waste
> Of rolling ages, light as fabrics look'd
> That from the magic wand aerial rise."

Many of our student friends look scornfully on the "orders," and turn up their noses at Sir Christopher Wren: they feel quite satisfied that they are much wiser than their forefathers, because they know what a bagioscope is (perhaps they don't after all), and have a little clearer notion of the principles of pointed architecture, through the investigations of others and not of themselves, than the practical, hard-working, old-school man had, with whom they studied.

Conceit (we do not mean self-confidence) is a sure sign of small knowledge. When we first get an insight to a science, the points are so striking and so new, we see so clearly the extent of our acquirement, that we form an exaggerated opinion of our progress, we feel how *much* we know, and begin to fancy we are "not as other men are." As we advance, and see into the depths of it, this feeling quickly disappears: we find how *little* we really do know, and how circumscribed is our power of attainment. The more extensive a man's knowledge becomes, the less hastily will he pronounce on the inferiority of those with whom he may meet. He will find that every man knows something which he does not,—is in one respect or another better than he is,—and will learn to regard all with a certain consideration. He will avoid scoffing at the ignorance of a comate in one particular, on the ground if on no higher, that he must himself be open to similar rebuke in another.

We would apply the remark to our own subject. Knowledge of a few striking dogmas, and even tolerable proficiency in the use of the pencil, do not constitute an architect. There is much more to be acquired by a student before he can enter the arena with any chance of success, and we advise those young gentlemen who have gravely complained to us of the want of a particular knowledge on the part of those to whom they are bound, to respect them for the knowledge which they *have* in other departments, and to strive to benefit by it. To find fault is more easy than becoming.

RESTORATION IN OXFORD.

A visit to this charming old city serves to take one back into the past, and makes history more real. We often steal an hour or two, when near it in the course of everyday duties (and thanks to railways you are now always near every place), and wander about the colleges, the churches, and the gardens, with advantage in more respects than one. It distresses us on these occasions to observe the rapidity with which many of the buildings externally are hastening to ruin. In a few years, unless something be done, two or three will be shapeless.

There is much bad Gothic in Oxford; still there is nothing that we can afford to lose. Moreover, there is no reason why it should be lost, there is no lack of funds, and these should be applied at once, and applied *wisely* in restoration of the venerable fabrics left by our forefathers. One especial point to be attended to is, (the assistance of a well qualified architect, being always the first), that an enduring stone be used, and that no sacrifice of perfectness be made for the sake of some present saving.

The entrance front of Queen's College, a comparatively modern structure, is in progress of restoration: the whole face of it having decayed, is being replaced. The material used, some of our readers will grieve as much as we did on hearing it, is perishable Bath stone, in the face of experience, and in spite of warning. Decay will have commenced before all the scaffolding is removed. For once we were glad to learn that no architect is employed.

One word, financial, to such of our friends as may be led by this brief reminder, or other circumstances, to pay Oxford a visit, and would know a reasonable inn. It isn't the Angel, just opposite the aforesaid Queen's, notwithstanding the lowliness and goodness the sign incarnates, and those who, like ourselves, have to distil their gold through a quill, or pick it out of the pockets of employers with the point of a black-lead pencil, may thank us for the hint, and go further without faring worse.

WATER—HOUSE-SUPPLY—DRAINAGE.

To the architect, the considerations relating to the supply of water must ever be of high importance; for it must often rest mainly with him whether or not it will be sufficient, and of suitable quality, points on which hinges much of the comfort of all classes. In towns, these considerations are often beyond his cognizance, but in the country they are clearly within his sphere, and imperatively demand his best attention; here he must be his own engineer, his own chemist, and without he possess a good practical acquaintance with the subject, the risk is, he will fail to carry out a system to either his client's satisfaction or his own.

Pure Water, properly so called, is only to be found in the laboratory when it has undergone the process of distillation, and is secured against the action of the atmosphere. Water, as it usually reaches us, whether from clouds, springs, wells, rivers, lakes, or ocean, is always more or less in combination with other bodies, either mechanically suspended, or held in solution; such being the case, it becomes a primary consideration how to divest it of these extraneous matters, and the first to suggest itself is the process of filtration. On a small scale, an efficient filtering vessel may be formed of a common garden-pot, well burnt, and with holes in the bottom; the lower part to be filled with round pebbles, then some smaller pebbles, then some coarse sand, and finally a stratum of pounded charcoal 3 or 4 inches thick; the use in large filters of broken shells interposed between the gravel and sand, is a great improvement, inasmuch as the fragments being flat overlap each other, and counteract the tendency of the sand to settle amongst the gravel, thus preserving a free percolation through the lower strata; in some methods, the process of filtration is inverted and operates by high pressure, but experience is in favour of the simple downward process, the upward may, however, be rendered of service in cleansing the filtering media. The antiseptic and conservative properties of charcoal are well known; if this ingredient be omitted in the filter, as it is in those of large water-works, though a perfectly clear and transparent fluid free from sediment and colour be produced, yet the water will not be freed from the more subtle animal and vegetable impurities suspended in it, or from the taint which it may have thereby acquired: but with charcoal, on a properly regulated system, the water, however foul and fetid, will be restored to its original brightness and purity, the mineral part alone retaining its hold, especially chalk, which no filtering process will separate.

Thus we find that water, containing mechanical admixtures, may be cleared by filtration: but that where these are chemical, distillation or other processes are requisite. That quality in water which is popularly termed "hardness," and which, in the waters of London, is a ground of so much complaint and annoyance, is due to the presence of chalk; the separation of which long baffled the best skill that could be brought to bear on the subject. It is this ingredient which is the cause of such an enormous consumption of soda in London; for soda neutralizes the chalk, though at the sacrifice, gradually, of the colours in the articles submitted to it; at the same time it materially lessens the requisite manual labour. But it is not the inconvenience alluded to that is alone caused by the presence of chalk in water; a much more serious ground of alarm exists in reference to its effects in the human frame, respecting which the fact shall speak for itself that, in the museum at Montpelier, there is a large collection of *calculi*, taken from the bladders of patients of the town and surrounding districts, all calcareous, and of various sizes, forms, and shades of colours; and so distinctive, that the attendant there a few years ago could tell, by their similarity to the chalky soil of the respective districts, to what "department" the person belonged from whom any of the concretions had been taken. This fact requires no comment. Although lime is a necessary ingredient in the formation of man's bones, water from a chalky soil cannot fail to deposit a great amount of its particles in the intestines.

Hard Water is known by its curdling or decomposing soap, which may be employed in it; this is an unfailing test: the contact of